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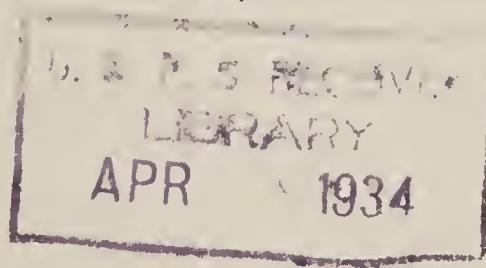
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EXECUTIVE AND PERSONNEL

MANAGEMENT

ON THE

NATIONAL FORESTS



A MEDIUM FOR THE EXCHANGE OF IDEAS AND
EXPERIENCES BY OPERATING EXECUTIVES
FOR THE BETTERMENT OF THE
SERVICE

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RANGE SPECIFICATIONS

By R. E. CLARK, REGION 2

Where are we headed for in range management? Consider this rather pertinent question personally and then try to formulate an answer that will be specific and entirely free of vagueness. It is not enough to say that your objectives include reductions of capacities to a given figure, that periods of use will be adjusted to the requirements of plant development, that seasonal use, rotational and deferred use, or bedding out, etc., will be applied to this and that unit of range. These individual steps, together with many others, are simply a means to an end; they are the minor objectives. There still remains the original question—what is the major objective in range management?

The absolute need for a major objective in range management is perfectly obvious to all. It will likewise be conceded that in an organization the size of ours there should be uniformity of purpose at all times—each individual should be directing his efforts toward a common goal. Purely local objectives may, and probably will, differ to some extent, but, regardless of this condition, they must contribute to the central, or major, objective, if progress and uniformity are to prevail. It is contended, however, that realization of such functional conditions can not be had if the major, or central, objective is indefinite and otherwise subject to a wide variety of personal opinion as to its real meaning. It is also contended that, if our present major objective was in full possession of the above qualitative requirements, you would have no difficulty in answering the above questions—you could state specifically just where you were headed for in range management. To the contrary, however, it is extremely doubtful if a ready answer in accord with the above is possible at this time. This implies that our present major, or central, objective is not definite and very few have a clear conception of just where they are headed for in this important undertaking, but before making a final conclusion, let's analyze this situation further.

Regulation G-12 makes it perfectly clear that the paramount issue in range management relates to forage conditions; it states that all our efforts should be directed toward "permanency of forage production" or "its sustained productivity". Figuratively, these terms present a "measuring stick"—they constitute the specifications that must be met by forage conditions before they can receive the stamp of approval. Frankly, however, just what kind of forage conditions have you got to have out on the ground to meet these specifications? If you can not answer this simple question in terms that are both specific and positive, then there is reason to believe that you do not know where you are headed for in range management. Similarly, you conclude annually, or periodically, that progress has been made in one or more minor objectives—the various elements that constitute the means to an end. How do you know progress has been made, if the "measuring stick" is illegible—you may have over-shot the mark entirely, or used the wrong kind of materials. Is it not therefore apparent that our major objective is not as definite as it should be, particularly from the

qualitative viewpoint? Granting that this is true gives rise to another important question. Is it possible to construct a major objective that will be more definite than the one we now have, one that may be used as a "measuring stick" out on the ground to determine whether the existing qualitative forage conditions are satisfactory or unsatisfactory, and, of course, one that is capable of the same interpretation by all?

Impossible! Maybe you are right, if you have in mind nothing short of a finished product. Such, however, is not the intent at this time. The present desire is limited merely to having everyone review the situation carefully to determine if there exist any latent possibilities worthy of subsequent use and development. The idea is yet too young for final conclusions but the following is presented for your consideration in the nature of a "starter" and it is hoped that it is capable of refinements.

Qualitatively, three terms—Type, Composition, and Palatability—have gained common usage, when making forage descriptions. "Density" is yet another factor but it approaches the quantitative side and is more or less contingent upon edaphic conditions over which we have no control. Accordingly, "density" will not be considered at this time nor will "palatability", because of the existing uncertainties surrounding its determination. This leaves us with "Type" and "Composition" as possible materials for use in making the proposed "measuring stick."

Ecology and a related subject—Plant Succession—treat the qualitative side of forage conditions in great detail. It is interesting to note, however, that underlying all the details there is a common basic principle emphasized by all authorities—the effect of biotic influences, either in retrogression or development of vegetative conditions, is evidenced largely through the relative percentages of grasses and weeds within the stand.

It would now appear that a scale of compositions by types offers a medium through which we would be able to determine the qualitative conditions within a type. If possible, therefore, the next step is to decide upon the unit of measure—the kind of composition, or relative percentages between grasses and weeds, that must exist within each type to make the qualitative forage conditions within that type entirely satisfactory.

Unfortunately, there is little, if any, reliable data known to be available which would help decide definitely the ideal percentages, between grasses and weeds, within each type for different localities. We do know, however, that it cannot represent those conditions to be found in the "Final, or Climax Stage". Likewise, it is questionable if we want to go as low as the "Second Weed Stage". In between however is a sub-climax stage which Sampson designates the "Mixed Grass-and-Weed Stage", and, undoubtedly, it is the composition within this stage that would serve to illustrate best the conditions we should strive to attain. Again it is unfortunate that information on composition by types within the "Mixed Grass-and-Weed Stage" does not seem to be available. It would appear, therefore, that, if a start is to be made, we must use one of two alternatives, either an arbitrary base or one built up from averages determined from existing reconnaissance data. The second has the most appeal since it represents actual conditions. It is true that average conditions may be lower than those we would like to see in the

ultimate; but undoubtedly there still exist all too many instances where considerable time and effort must elapse before even averages obtain. To say the least, the use of average figures will serve as a "starter" and certainly such use will result in no material harm.

Accordingly, the following is presented to illustrate a definite "measuring stick" for use in measuring qualitative forage conditions on the eastern slope of the Continental Divide, in Colorado. The data represent the work of P. B. Lister and show average conditions, as determined by reconnaissance, on some 1,600,000 acres within five Forests.

SHEEP RANGES

| Types | Subtypes | Percentages | | |
|-------|------------|-------------|---------|--------|
| | | Weeds | Grasses | Shrubs |
| 1 | Burns | 20 | 65 | 15 |
| | Timberline | 32 | 65 | 3 |
| 3 | Timberline | 80 | 20 | |
| 6 | General | 45 | 25 | 30 |
| 10 | General | 59 | 35 | 6 |

CATTLE RANGES

| Types | Subtypes | Percentages | | |
|-------|-------------------|-------------|---------|--------|
| | | Weeds | Grasses | Shrubs |
| 1 | Bunchgrass | 20 | 70 | 10 |
| | Grama | 28 | 70 | 2 |
| 2 | Wet | 12 | 86 | 2 |
| | Dry | 10 | 88 | 2 |
| 4 | | 25 | 30 | 45 |
| 5 | Willow | 15 | 40 | 45 |
| | Oak Brush | 20 | 40 | 40 |
| 6 | Ponderosa | 30 | 63 | 7 |
| | Ponderosa—Oak | 27 | 50 | 23 |
| | Ponderosa—Douglas | 15 | 70 | 15 |
| | Conifer—Aspen | 47 | 47 | 6 |
| 7 | Engelmann | 35 | 45 | 20 |
| | Lodgepole | 62 | 25 | 13 |
| 9 | | 12 | 73 | 15 |
| 10 | | 40 | 30 | 30 |

Suppose now by chance that the above represented the approved specifications for satisfactory forage conditions on your own Forest. Would there be any doubt in your mind as to where you were headed for in range management? Likewise, would you have an opportunity to determine specifically, say at 5-year intervals, whether or not you were producing progressive results? Also, would our major, or central, objective in range management be more specific and possible of a common interpretation by

all, if the "Instructions and Procedure" relating to Regulation G-12 were so amended as to require the Regional Forester to define "permanency of forage production" and "sustained productivity" in somewhat the same manner and as outlined above? Does the idea harbor any latent possibilities worthy of further consideration, possible development, or use?

REVIEWS

PRODUCTION CONTROL

*By George T. Trundle, Jr., President and The Staff,
Trundle Engineering Company*

The following is an attempt to brief for you that part of the above paper which seems most applicable to the problems discussed in Supervisor Clark's paper. The writer of the article had in mind primarily factory production, but he recognizes, what we too have learned, that the problems of all producing organizations have much in common. Scheduling in a mass-production factory, for example, is more important than in forage production on the open range, but the problem is still there nevertheless.

In the report of President Hoover's Committee on elimination of waste in industry it is stated that, "The lack of adequate methods of production control is evident in every industry studied. It is one of the outstanding weaknesses". This report was made after a study of major industries, yet those who have had experience in its application have come to know that control is a profitable investment not a luxury.

Production control depends largely on planning. It involves a plan but includes also the carrying out of the plan. "The control of an undertaking consists of seeing that everything is being carried out in accordance with the plan which has been adopted, the orders which have been given, and the principles which have been laid down." Its aim is the lowest production costs possible under existing conditions.

This necessitates a complete analysis of each individual operation necessary to produce the products called for in the plan. Where large quantities of a single product are produced, operations are standardized. Where products are made to order, an analyses of the operations on each product is necessary. This requires detailed knowledge of all available equipment and facilities and a working knowledge of how operations are performed.

After these analyses have been made the labor requirements can be computed and planned. Good management requires that there be enough labor, but not too much, available at the right time and in the right place. The assignment and direction of this labor so that plans will be carried out without waste is the purpose of control. Where there is no systematic control there is usually a surplus of labor because the lack of exact information fosters an inclination on the part of executives to play safe. But in spite of this there will be times and places where not enough labor is available.

Control must concern itself also with materials and equipment. Not only must the management provide men; it must provide and standardize the material with which they work and the conditions under which they work. The plan calls for a standard product of standard quality, but that standard cannot be reached unless the proper materials are furnished and unless each step or process has been maintained to standard. This requires a check on materials and processes at every step but so planned that they

prevent mistakes rather than correct them. It also provides that there will be the right amounts in the right place at the right time. This is a part of systematic control.

"There are four main essentials which are needed regardless of the size or type of operations, to make the application of production control complete and fully effective." They are:

1. *Should Cover Every Factor.* There will of course be the general plan. This is provided in practically all cases. But the general plan must be broken down into departmental plans, and departmental plans into unit plans and operation plans down to the very last detail. Control must be comprehensive. It must include everything, every factor. It is this lack of attention to details which occasioned the statement quoted from the Hoover Committee report. It is through the breaking down of general plans into unit operations that flexibility is attained without loss of control. Not only operations but all other factors, men, materials, equipment, must be considered. Complete control of all factors can be attained only through a control of details. It must be comprehensive, take nothing for granted.

2. *Right Kind of System.* "There should be provided sufficient of the right kind of system, forms, and clerical routine to (a) collect adequate detailed information needed in planning; (b) inaugurate work and give complete instructions and the detailed information needed in performance; and (c) provide records of current and past performances".

The great temptation is to get too much or not the right kind. All should be useable and used. Too much makes for confusion and discourages use. Anything not used should be dropped. This should not discourage studies or the trying out of records that seem promising.

Records and systems are only tools. They tend constantly to become ends in themselves. This can be avoided by treating them exactly as you do other tools—maintaining them only while in use. Systems and records are inflexible until judgment is applied, and flexibility is one of the chief requirements of control. Records aid but should not control.

3. *Competent Personnel Properly Authorized.* Sufficient personnel should be provided, but not more than be justified by the requirements of the job. It must be trained to cover all details and make proper use of records and standards. It should realize the importance of its work and be inspired by a genuine desire to serve.

4. *Proper Spirit.* The entire organization from the president down must be inculcated with the proper spirit. This is an intangible something that is more easily felt and understood than described. It involves an appreciation of its importance by other departments. It concerns the entire organization. Without the backing of the entire organization it had as well not be attempted.

Now when it comes to applying this control idea to range management where do we get? Your first reaction is that a range is so far removed from a factory that comparisons or applications are useless. But let us see: Has not range management advocated almost an identical procedure

with that outlined by Trundle? Both advocate a careful appraisal and analyses of all material and equipment factors. What else is a range survey? Both advocate a general plan supplemented by unit plans. Both advocate adequate trained personnel. Both advocate standards of procedure (such as opening dates, salting, etc.) based on systematic analysis of all pertinent factors. Both advocate such records as are necessary for future planning. And both advocate timely inspection and supervision to prevent mistakes rather than report on them after they are made. So as I see it, Trundle's control idea applies, with varying degrees of emphasis, to forage production. But at what point does the Rio Grande's control methods fall short? They have had the survey; they have the plan; they have, I think, an adequately trained personnel. Clark says the defect is in that the executives have no "measuring stick". For adequate control the inspector must have definite standards against which he can check the product. Range management has so far produced no definite standard of maintenance. Such a standard is imperative. No less so for a range than for a factory. Clark would like to know where he is headed. Is he carrying out the plan? Is he maintaining production? If not, it will show up in time, but not until after much damage has been done. Control should have standards and methods that will prevent serious damage.

Recognizing the need, Clark proposes a standard. Will it work?

THE DAY OF THE CATTLEMAN

By Professor Ernest S. Osgood, University of Minnesota.

This book by Prof. Osgood is a history of the development of the cattle industry in the great plains regions from Texas to Montana and incidentally a history of the region itself since the two are so closely associated. The general nature of this development, covering an empire greater in area than the original United States, is known to the older men on our grazing Forests since they themselves played an important part during the latter half or more of the period. The last chapter of this great epoch is not yet written. It is history in the making. It is now Congress's turn to act, and on their action depends whether or not the story shall have a "happy ending".

The book begins back a hundred years ago when the explorer and trapper were beginning to enter the region. Then came the discovery of gold in the 40's, and following it the great trek West of the gold seekers. From these travelers the range received its first scant stocking. Cattle were used largely as work stock. Many of them were lost, some were abandoned, and the traders soon learned that there was a profitable business in trading well conditioned animals for those wornout on the trail. Then in the 50's came the Mormon migration and the discovery of gold in the Rocky Mountains. These brought more settlers and more stock but the numbers so introduced made no impression on the "unlimited" range.

But after the Civil War cattle began to come in real numbers. In 1866 began the "Texas invasion" when great herds were trailed up from the South. Agricultural settlement in a big way began at the same time, first along the eastern border but rapidly extending westward. The cattle country was being pushed back, but at the same time cattle raising was becoming big business.

The author discusses the movement under the following suggestive headings: "The Texas Invasion"; "The Indian Barrier"; "The Cattle Boom"; "Organization"; "The Public Domain"; and "Disaster and Transition".

As soon as the Texas cattle began to come in large numbers the local stockmen in the various states and territories began to organize to keep them out. But not right at first; it was too profitable to bring in the southern herds, fatten them on the limitless feed and then send them east to the market.

In 1869 Kansas passed the first quarantine law. Colorado, Nebraska and Dakota soon followed. Wyoming and Montana were slower. These early laws assumed that all Texas cattle were infected. Of course, they were not and such laws were declared unconstitutional in 1877. The need for examination to determine infection in such interstate movements of stock caused the creation by Congress in 1882 of a "Cattle Commission" in the Treasury Department. This later developed into the Bureau of Animal Industry in the Department of Agriculture.

The need for protection such as this and other forms of protection caused early organization of the stockmen. The cattlemen's associations

soon became a real power, controlled or influenced State and local governments and elected their own members to Congress. Naturally their power and influence was used for the benefit of the stock industry. At first this coincided with the interests of the region, but later as settlement increased and other industries developed, conflicts of interest arose. The cattle interests wanted to keep the region a stockman's empire and resisted other developments. This lead to all sorts of conflicts, the best known of which is probably the "Johnson County War" in Wyoming. The stockmen resisted settlement and sometimes not without cause. Agricultural settlement was attempted on thousands of acres where agriculture was impossible.

In addition the stockmen began to try to control the range through the control of water. This method was more effective than physical resistance or violence but in spite of everything the range country was gradually broken up into smaller units and the old-time ranch and the "cattle baron" passed away.

The range however at least a goodly part of it, still remains. It is not what it once was either in area or in forage production, but it is still a problem, still officially uncontrolled and therefore largely controlled stockmen agreements and stock associations. This form of control has never been satisfactory and is becoming less so. What will become of this region of romance and realism that has furnished us with so large a per cent of our literature of adventure is of interest to every reader of wild west stories as well as every old time cowman. That story has yet to be told.

SUGGESTIONS FOR DISCUSSION

Now that the fire season is pretty well over and a good many of you will be out making your fall inspections, we have switched from fire to a range problem. Clark's paper reminded me of a paper I heard read at a Supervisors' meeting some six or eight years ago. That paper said that after twenty years of continual improvement the range was found to be in very bad condition. That is, on the Forest being discussed, the grazing report each year had showed the range to be in good condition and improving while a recent reconnaissance had reported it in bad condition and apparently deteriorating. I doubt if this statement represented an isolated case. But anyhow, why the conflicting reports? Clark tells us that is was because the inspectors had no "measuring stick"—no standard against which to check conditions.

It is not necessary to assume, either that the men reporting were not good range men or that their reports were influenced by their desires. The failure or mistake was not an individual failure but a Service failure. The men could not properly be expected to measure the range without a "measuring stick."

It seems to me that some men have formulated in their own minds fairly good standards but that they have not learned how to transmit these standards to others. The trouble seems to be that they have failed to coordinate the various factors into a definite system or method that can be understood and taught and used. Before our ranges can be properly handled, range inspectors (Rangers) must be given a method by which they can check a range and know whether or not that range has been misused. The method must be simple, definite, tangible. It must also provide a method or reporting that can be understood and checked on the ground. Our "indicators of over-grazing" and "percentages of utilization" have been a big help but they have not furnished that definite something that management control requires. This very positive statement of mine is merely my interpretation of what both Clark and Trundle have said. I make no pretense of being a range expert. Clark rightly wants a method that will tell the range manager which way he is going. He has proposed such a method for your consideration. Will it do the work?

QUESTIONS

1. Consider first the need for a standard or "normal" range idea as suggested:

(a) Is there a need for some "measuring stick" with which to determine range conditions?

(b) Is it already provided or available?

In other words is this a real honest-to-goodness range problem?

2. What do you think of average composition percentages as range standards for practical use? In the first place, do they necessarily represent a desirable standard toward which we should work? And if they do, how useable are they? Think of actual operating range conditions.

3. If Clark's method won't work, what will? Just what, in your opinion, is needed or lacking and how are we going to get it?

DISCUSSION OF NO 10—ORGANIZATION

This is a new low for number of discussions. I presume the reason is, first, that field work right now is particularly heavy, and second, that Boulden's paper raised few controversial points. It was so well worked out that there was nothing left to discuss. And since it was written, the methods advocated have had the severest kind of test—a 160,000 acre fire—and reports say there was no organization failures.

To do that, we all know there was a lot of advance preparation. One must have planned in advance. To organize a thousand men into an efficient working unit, under any conditions is a big job, and is particularly difficult under fire conditions. It involves a lot more than merely knowing the duties of a campboss, a sector boss, and so forth. This merely represents what the organization should be after it is effected. How to get it working that way is another story. You have men coming to you from all directions in bus loads and truck loads and on foot. Just what will you do with them—the details? For in this case the generalities are easy, we all know them, it is the details that get us tangled up. Just what will we do and say and to whom will we say it? We stop to do things that someone else ought to do. This takes time and before we realize it, things are in a mess. The man in charge must make every move count.

We learned in our discussions of organization a year ago that no executive should have more than five or six men working directly under him. It seems to me that this is particularly important on a fire. So often the fire-boss tries to deal with too many men. This is always a mistake. It is best to get a few good assistants, give them responsibility and work only through them, except incidentally or in emergency.

However, where untrained or partly trained officials must be used this is not always possible, but even then, the boss should as far as possible work through his assistants. Here I am discussing generalities after saying that it is the details that count.

Last spring at training camps I saw a lot of good work on this problem. The training groups were able to get down to realities in a way that surprised me. And when they did get down to actualities, to the little things one really does and the decisions one must make, they found it all intensely interesting. They discussed and weighed and considered in a way that one has no time for on a fire, but in a way that must be done sometime. If you haven't thought it all out in advance the Board of Review will probably do it after the fire is past.

I have not had an opportunity to see any of these men from the camps in action on a fire but my hunch is that their training showed up in their work. And while I failed to get you to discuss organization on paper, I'm betting that there is going to be a lot of discussion of it and study of it and training in it during the next few years. It's a big problem.

J. F. CONNER

HARNEY

CUSTER, SOUTH DAKOTA

The reason why organization for fire suppression presents so many problems and does not always function as anticipated, is because a big fire

is something we can not rehearse for and have all the actors present. We instruct the men who form the nucleus of our organization in advance by picturing to them a theoretical fire but we can never be entirely sure just how these men we have instructed will perform under a blow up. In most cases the same Forest does not have a big fire on an average of more than once in five years so most of the actors never get to give a second performance. Consequently we must anticipate difficulty in making such an organization function to our complete satisfaction.

The organization must be capable of rapid expansion and contraction to meet changing conditions if a serious blow up is to be successfully handled or a reverse condition taken advantage of to avoid expense. This can best be handled by having sufficient men available that have been instructed so they will function in different capacities. For example on a small fire we may have men working as crew bosses that have been instructed and who are entirely capable of functioning as a division boss. Also division bosses that will make sector bosses. These men can be moved up as the organization expands and stepped down as need for contraction arises.

The tendency of men to congregate in groups will always be more or less of a problem and must be overcome by better trained men as crew and division bosses.

I agree with Boulden on his organization for a large fire except that no provision is made for scouting. In my opinion this is one of the most important jobs and should rank next to the fire chief. The scout must be a man in whose judgment the chief has absolute confidence. He will secure first-hand information on the movements and conditions on the various sections of the fire and give the fire chief first hand information.

C. L. VAN GIESEN ROOSEVELT FT. COLLINS, COLORADO

I would like to make some comments on the review of the article "Land? An Answer to the Unemployment Problem".

A large majority of us in the Forest Service are farm or ranch born. I, at least, still retain faith in the soil as a potential producer of a livelihood. Many of us can look back to the time when a large number of people were able to produce a living on small self-sufficient farms. To be sure their incomes were small compared with that of the present industrial workers, and their luxuries few, but, at least, they were not unemployed.

I am not familiar with the extent of untenanted farm lands of better classes at the present time. Very few years ago, however, in parts of the East of 25 per cent of the agricultural lands were untilled. Are there not plenty of good unused farms today to accommodate a considerable part of the unemployed? There were, not long ago, many equipped farms which could be leased on the basis of 50 per cent of the yield. It seems to me that a large number of the present unemployed people are of a class identical with those once engaged in "peasant" farming. I do not agree with the economists who state that we can continue to maintain the high standard of living attained during the past ten years. There appears to be little likelihood that the present unemployed can hope to have more than

a mere livelihood and a few selected luxuries for many years to come. If private enterprise cannot stimulate a movement to the farms, cannot the counties and states utilize their tax delinquent lands under a definite plan to relieve unemployment?

I doubt whether a return to the soil would have much effect on markets. The lower classes of unemployed, in general, have been underfed and have had no purchasing power for luxuries. If the farm units were of a size that production would be largely limited to personal needs, there should be little effect on the surplus of farm products. Could not the counties or states require labor on roads to a value equivalent to taxes and minimum rental value of the farm? This would tend to reduce taxes on the self-supporting privately-owned farms. In the same way, could not the renters slowly acquire these lands? I have sufficient faith in this plan that if I were unemployed I would make a determined effort to gain a livelihood thereunder. Of course, this "back to the soil" movement would not solve the problem of all employment but I feel sure would have a definite beneficial effect upon present conditions.

